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Docket No.: 331.1050
Date: October 1, 2007


AP
T5

In re application of: **Torsten GERLICH, et al.**
Serial No.: 10/665,137
Filed: September 18, 2003
For: **CIRCUITRY CONFIGURATION FOR AN ELECTROMAGNETIC REGENERATION VALVE
ACTUABLE BY PULSE-WIDTH MODULATION FOR VENTING THE TANK OF A MOTOR
VEHICLE**

Sir:

Transmitted herewith is an **Appellant's Reply Brief Under 37 C.F.R. §41.41 (4 pgs)** in the above-identified application.

- ☒ Also transmitted herewith are:
☐ Petition for extension under 37 C.F.R. 1.136
☒ Other: **Return Receipt Postcard**
- ☐ Check(s) in the amount of \$.00 is/are attached to cover:
☐ Filing fee for additional claims under 37 C.F.R. 1.16
☐ Petition fee for extension under 37 C.F.R. 1.136
☐ Other:
☐ Other:
- ☒ The Assistant Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 50-0552.
- ☒ Any filing fee under 37 C.F.R. 1.16 for the presentation of additional claims which are not paid by check submitted herewith.
- ☒ Any patent application processing fees under 37 C.F.R. 1.17.
- ☒ Any petition fees for extension under 37 C.F.R. 1.136 which are not paid by check submitted herewith, and it is hereby requested that this be a petition for an automatic extension of time under 37 CFR 1.136.



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I hereby certify that the documents referred to as attached therein and/or fee are being deposited with the United States Postal Service as "first class mail" with sufficient postage in an envelope addressed to "Mail Stop: APPEAL BRIEF - PATENTS Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on October 1, 2007.

DAVIDSON, DAVIDSON & KAPPEL, LLC

BY: 

Sunil Raval

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**



Re: Application of: Torsten GERLICH, et al.

Application No.: 10/665,137

Filed: September 18, 2003

Art Unit: 2836

Examiner: Zeev C. Kitov

Attorney Docket No.: 331.1050

Title: **CIRCUITRY CONFIGURATION FOR AN
ELECTROMAGNETIC REGENERATION VALVE
ACTUATABLE BY PULSE-WIDTH MODULATION
FOR VENTING THE TANK OF A MOTOR
VEHICLE**

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October 1, 2007

APPELLANTS' REPLY BRIEF UNDER 37 C.F.R. §41.41

Sir:

Appellants submit this Reply Brief for consideration of the Board of Patent Appeals and Interferences (the "Board") in response to the two (2) Examiner's Answers, dated July 31, 2007 and September 24, 2007 respectively, and in support of their appeal of the Non-Final Rejection dated November 30, 2006. Appellants respectfully reassert each of the arguments asserted in Appellants' Brief dated March 30, 2007, and provides herein a rebuttal of several of the arguments raised in the Examiner's Answer.

No fee is believed required. If any fee is required at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

ARGUMENTS

In addition to the arguments made in the appeal brief, the following additional remarks are submitted for consideration by the Board under 37 CFR §41.41.

I. 35 U.S.C. §103(a)

Claims 1 to 3, 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Busato (WO 99/06893) in view of Horowitz et al. textbook, The Art of Electronics, and Shacklock et al. (US 5,231,722). Claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Busato in view of Horowitz et al., Shacklock et al. and Klotz et al. (US 4,915,204). Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Busato in view of Horowitz et al., Shacklock et al. and Maller (US 6,256,185). Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Busato in view of Horowitz et al., Shacklock et al. and Butts et al. (US 4,796,853).

Independent claim 1 of the present invention recites “an electromagnetic regeneration valve for venting a tank of a motor vehicle, the regeneration valve being actuatable by pulse-width modulation and having a pulsed mode and a proportional mode having a higher frequency than the pulsed mode comprising:

- a solenoid, and circuitry configuration including:
- a power source for supplying the solenoid with electricity;
- a control unit for generating pulse-width-modulated signals;
- a switching device, the solenoid capable of receiving the pulse-width-modulated signals of the control unit via the switching device; and
- a suppression device for suppressing high induced voltages at the solenoid, the solenoid in the proportional mode having a position corresponding to a mean current level.”

Horowitz specifically teaches away from using a suppression device for suppressing high induced voltages, as admitted by the Examiners Answer. The Examiner’s Answer, however, then asserts that this teaching is not applicable: “the longer decay of the current could adversely affect the circuit only at sufficient high frequencies when the decay time becomes comparable to the pulse width. Otherwise, at relatively low frequencies the voltage suppression device

(freewheeling diodes) could be used without causing any problem.” See Examiner’s Answer, page 9, lines 5 to 8. The Examiner provides no basis for this statement or that this is anything that would have been understood to one of skill in the art at the time of the invention. There is absolutely no teaching in Horowitz et al. at all or Busato to use a suppressing device with pulse modulation, and Horowitz et al. actually teaches away from such a modification.

Furthermore, the Examiner’s Answer relies solely on the legend of Figure 2.4 which is related to load switching and clearly not to pulse modulation where lengthening the current decay is clearly disadvantageous.

The Examiner’s assertion at page 11, lines 5 to 9 that Applicant’s arguments:

“ignore collective experience of generations of designers, since such protection (freewheeling diodes) is used for at least 50 years, and recited in multiple textbooks sources presented in the Office Action by the citation from Horowitz et al. stating: Always use a suppression diode when switching an inductive load (legend under Fig. 2.4).”

is a red herring. Applicants do not say to ignore collective experience – rather, the collective experience shows that free-wheeling diodes were not used for suppression of noise with pulse modulation. The Horowitz statement “always use a suppression diode when switching an inductive load” is irrelevant to pulse modulation. In fact, Horowitz teaches away from using the claimed suppression device with pulse modulation.


Withdrawal of the rejections of independent claim 1 under 35 U.S.C. §103(a) is respectfully requested. Withdrawal of the rejections of dependent claims 2 to 8 under 35 U.S.C. §103(a) is also respectfully requested.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance. Favorable consideration of this Reply Brief is respectfully requested.

Respectfully submitted,

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